



**CISTER**

Research Center in  
Real-Time & Embedded  
Computing Systems

# Poster

---

## **Dependable Embedded Wireless Infrastructure**

**Nuno Pereira**

---

CISTER-TR-151210

# Dependable Embedded Wireless Infrastructure

Nuno Pereira

CISTER Research Center

Polytechnic Institute of Porto (ISEP-IPP)

Rua Dr. António Bernardino de Almeida, 431

4200-072 Porto

Portugal

Tel.: +351.22.8340509, Fax: +351.22.8321159

E-mail:

<http://www.cister.isep.ipp.pt>

## Abstract

DEWI will provide key solutions for wireless seamless connectivity and interoperability in the everyday physical environment of citizens, thereby significantly contributing to the emerging smart home and smart public space.





Dependable Embedded Wireless Infrastructure



ARTEMIS/0004/2013  
JU grant nr. 621353 (DEWI)

**PROJECT** *description*

DEWI will provide key solutions for wireless seamless connectivity and interoperability in the everyday physical environment of citizens, thereby significantly contributing to the emerging smart home and smart public space.

**RELEVANCE CALL 2013** *objectives*

The multiple use cases will clearly highlight the advantages of replacing wired solutions by wireless, including less weight in weight-sensitive environments, greater flexibility and re-configurability, easy cost-effective feature updates, novel bring your own device applications and more reliability through monitoring reduced tear and wear.

**MARKET** *innovation*

DEWI introduces the concept of a locally adaptable wireless sensor & communication bubble featuring:

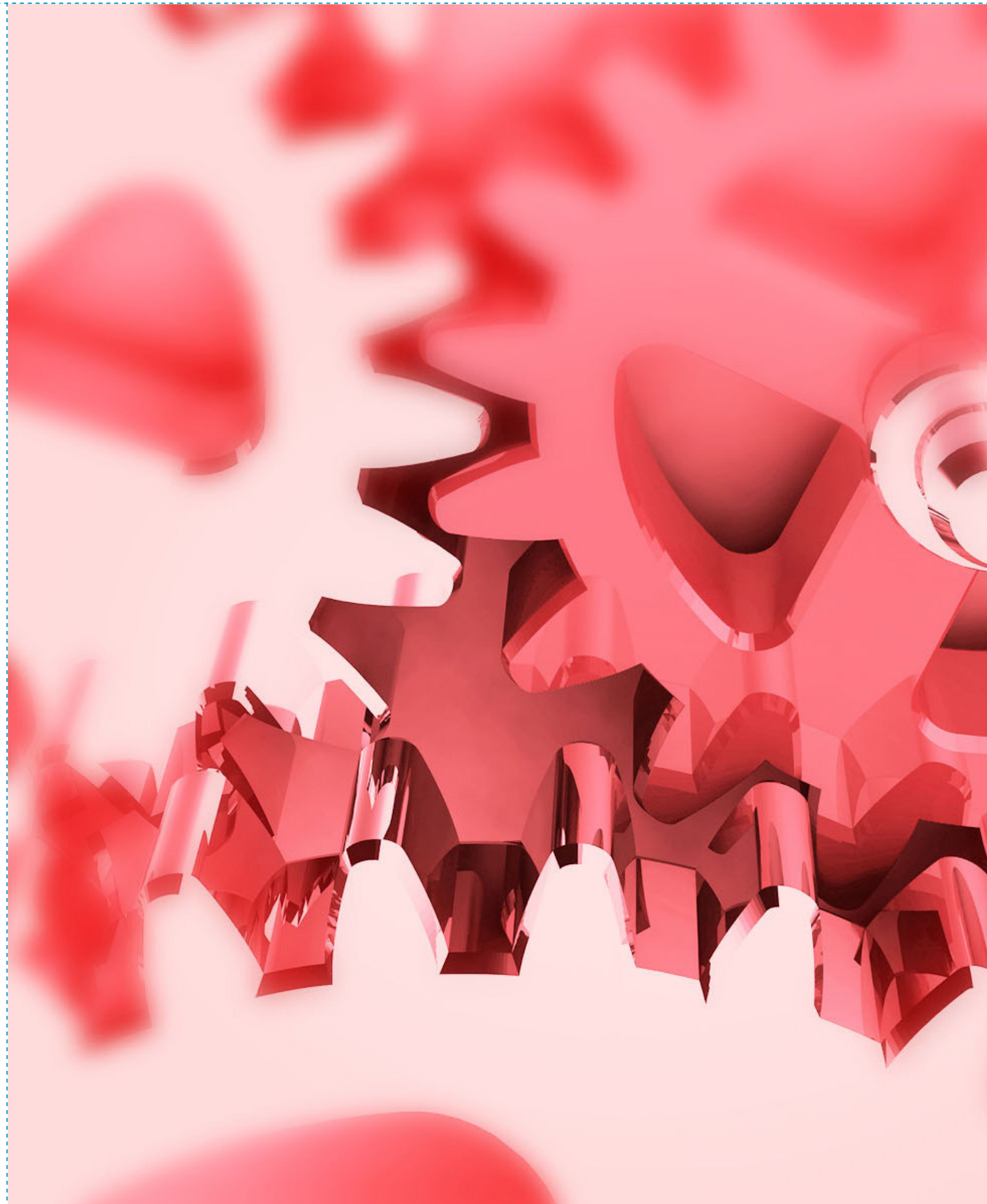
- > Locally confined wireless internal and external access.
- > Secure and dependable wireless communication and safe operation.
- > Fast, easy and stress-free access to smart environments.
- > Flexible self-organisation, re-configuration, resilience and adaptability.
- > Open solutions and standards for cross-domain reusability and interoperability.

This concept, as realised through 21 industry-driven use cases, will tackle challenges including:

- > Dependable, auto-configurable, optionally secure, short-range communication.
- > Local energy-management: efficiency, harvesting, storage.
- > Localization of sensors and mobile devices.
- > Smart composability and integration of wireless sensor networks.

**TECHNICAL** *innovation*

DEWI, with its four industrial domains (Aeronautics, Automotive, Rail, Building), will provide clear gains for interoperability and cross-domain issues in the area of wireless sensor networks & wireless communication in terms of re-usability of technological building bricks along with architecture, processes and methods. Key results will be shown in attractive real-life sensor & communication bubble demonstrators, such as wireless sensor networks for civil rocket launchers or off-highway vehicle for wireless vibration monitoring. The project will contribute to emerging international standards, influence new regulations and lay the basis for efficient certification processes. Existing ARTEMIS Tool Platforms, the ARTEMIS Repository and ARTEMIS Sub-programmes will benefit from the concrete input of well-defined technology items and strategic input to other application fields, like healthcare.



<b>PROJECT COORDINATOR</b> Werner Rom	<b>START</b> 1 March 2014
<b>INSTITUTION</b> VIRTUAL VEHICLE Research Center	<b>DURATION</b> 36 months
<b>EMAIL</b> dewi@v2c2.at	<b>TOTAL INVESTMENT</b> 39,61 M
<b>WEBSITE</b> www.dewi-project.eu	<b>PARTICIPATING ORGANISATIONS</b> 58
	<b>NUMBER OF COUNTRIES</b> 11

